



REMARKS

The last Office Action dated April 25, 2006 has been carefully considered. It is noted That the applicant's arguments refuting the objections cited by the examiner in the previous office action were not considered persuasive. The applicant wishes to traverse the decision the examiner has made to uphold her previous rejection.

Regarding the use of Maruyama (U.S. 6620764) as prior art, the applicant continues to assert that this patent does not represent prior art but has decided not to challenge, at this time, the use of the earlier Maruyama (U.S. 6313067) as prior art. Nevertheless, he wishes to vehemently oppose the assertion that Maruyama (U.S. 6313067) and Wunderlich et al. (U.S. 5451932) are grounds for dismissing his invention due to obviousness. In particular he believes that the examiner's blanket assertion that knowledge of multiple thermochromic segments as disclosed by Wunderlich makes it obvious to modify the invention disclosed by Maruyama to arrive at his own invention is simplistic to say the least, and ignores aspects of both patents that teach away from the applicant's invention.

This simplistic form of argument is tantamount to arguing that it would be obvious to use a football at a baseball game rather than the standard round ball that is normally used, since the use of a football is already known.

Such a conclusion would be patently unobvious to anyone familiar with both sports. Now, if someone were to try to make an improvement in the sport of baseball by changing the ball from round to oval, and somehow grappled with the obstacles to doing so by perhaps modifying the bat, or making some other changes to the game so that baseball played with an oval ball became not only feasible, but improved the game, he would be seen as an innovator, and those familiar with the prior art would recognize how unobvious and against the grain of conventional wisdom the change went.

While the inventor's patent relates to coffee mugs, not football or baseball, it is his belief that if one is sufficiently familiar with the two patents cited by the examiner, there is a similar lack of obviousness between his invention and these two. If one further takes into account the technology that is used in mug decorating, and the difficulty and expense of placing multiple thermochromic segments on a mug, the lack of obviousness is even clearer.

When examining the two patents cited by the examiner to find some suggestion to combine the two to arrive at the applicant's invention, one is struck by the fact that neither patent makes any claim to be a temperature indicator. The inventor finds it curious that it would be deemed obvious to use two patents, neither of which make any claim to be a temperature indicator of any kind, to arrive at an invention whose primary aim is to measure and indicate temperature in a useful way to coffee drinkers.

The applicant has already pointed out in previous correspondences, that using thermochromic ink to indicate temperature in a useful way to consumers requires something more than just applying a thermochromic ink or inks to a surface. It is with good reason that neither Maruyama nor Wunderlich make claims to be temperature indicators, as both patents fall far short of being useful temperature indicators. Simply applying a thermochromic ink or even multiple thermochromic inks to a mug does not necessarily mean that one will be left with a mug that can indicate coffee temperature in a useful way to a consumer.

The main difference between the applicant's invention and the two inventions described by Maruyama and Wunderlich and what makes it suitable as a temperature indicator where those two inventions are not, is that it allows differentiable temperature indication over a relatively large temperature range (large enough to be useful to a coffee drinker). By that, I mean that the user is able to conveniently discern with a sufficient amount of accuracy, the temperature of his coffee within the range of luke warm to very hot. The key elements of the applicant's invention that allow this to be achieved are:

- 1) Use of hidden messages or images to allow the relatively large (in terms of temperature range) intermediate state of partial opaqueness inherent in thermochromic ink, to be utilized to provide useful and discernable temperature information
- 2) Use of multiple thermochromic inks to expand the range of temperatures that can be measured beyond the approximately 5 degrees Celsius that can be measured with a single thermochromic ink.
- 3) The choosing of thermochromic inks with contiguous temperature ranges to allow a large temperature range to be measured without gaps (e.g. the upper limit of the temperature range for one ink matches the lower limit of the ink next to it).

When one examines Maruyama and Wunderlich one is struck by the fact that of these three features neither patent contains more than one of them. To wit, Maruyama contains the first feature but not the other two, whereas Wunderlich contains the second feature but not the other two.

If we examine the third of those features listed above (the use of contiguous thermochromic inks) we clearly see that this feature is not disclosed in either of the two patents cited. Focusing on Wunderlich in particular, since it is the only of the two to refer to multiple thermochromic inks, one notices no mention at all of contiguous thermochromic inks but even more striking is the fact that the idea of contiguous thermochromic inks is incompatible with the description of thermochromic inks contained in the Wunderlich patent itself. In fact, both Wunderlich and Maruyama (U.S. 6313067) make no acknowledgement of the existence of an intermediate temperature range in the thermochromic inks they describe. Without the existence of a partially opaque intermediate temperature range, the idea of contiguous thermochromic ink segments makes no sense. And yet this feature of thermochromic ink is not noted by either Maruyama (U.S. 6313067) or Wunderlich. On the contrary, both patents contain descriptions whereby the thermochromic inks they are utilizing are described as binary indicators (i.e. indicators that change from opaque to transparent roughly instantaneously, with the ink remaining opaque below a certain temperature and remaining transparent above that same temperature).

The pertinent passages from both patents are cited below.

(Wunderlich 5451932):

3. Apparatus according to claim 2 wherein a layer of colored material is under said layer of thermochromic material, said thermochromic material being adapted to be opaque to prevent viewing of said colored material when cooled below a threshold temperature and being adapted to become transparent to permit viewing of said colored material when heated above said threshold temperature.

(Maruyama 6313067):

An image system responsive to temperature, said image system
Comprising:

A base; and a surface located on said base, said surface comprising a thermochromatic layer, wherein said thermochromatic layer comprises a thermochromatic ink, said thermochromatic ink comprising a color that reversibly changes in response to a temperature change, said thermochromatic ink being substantially transparent in a predetermined temperature range and comprising a concealable color below said predetermined temperature range.

It is abundantly clear that neither of the patents cited by the examiner suggest the use of contiguous thermochromic ink segments as is described by the applicant. On the contrary, they teach away from this feature.

The Examiner has the burden to indicate with specificity the teaching, suggestion or motivation to combine the elements in the cited references, as stated in *McGinley v. Franklin Sports Inc.*, 262 F.3d 1339, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) which held that "The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion or reason' to combine cited references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383

(Fed. Cir. 1997). When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously.”

The Courts have emphasized and amplified on this rule in numerous decisions, for example see *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'" (quoting *C.R. Bard, Inc., v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998)); *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined *only* if there is some suggestion or incentive to do so.") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)).

The applicant has demonstrated that there was no suggestion or incentive to use the multiple thermochromic ink segments described in Wunderlich in the way used by the applicant. In particular, the idea of contiguous thermochromic ink segments, which is critical to the applicant's invention, is not only not mentioned or suggested by Wunderlich, such an idea runs contrary to the description of thermochromic ink made by Wunderlich, and could be said to contradict what would seem possible according to Wunderlich.

Thus, the Examiner's citing of Wunderlich as making the applicant's invention

obvious by teaching that a thermochromic display can have segments simply states the claimed combination without supplying a motivation to make the combination, and ignores aspects of Wunderlich that teach away from the applicant's invention. It cannot be said to meet the legal standard set forth in *McGinley v. Franklin Sports Inc.*, *Gambro Lundia AB v. Baxter Healthcare Corp.*, *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, *In re Dembiczak*, *In re Dance*, or *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, *supra*.

Further, it is respectfully submitted, *in arguendo*, that even if the Examiner had been able to establish a prima facie case of obviousness the combination of Maruyama with Wunderlich is improper, as Wunderlich does not represent analogous art under the authority of *In re Wood*, 599 F.2d 1032, 202 USPQ 171, 174 (C.C.P.A. 1979) has held that "In resolving the question of obviousness under 35 U.S.C. § 103, we presume full knowledge by the inventor of all the prior art in the field of his endeavor. However, with regard to prior art outside the field of his endeavor, we only presume knowledge from those arts reasonably pertinent to the particular problem with which the inventor was involved. The rationale behind this rule precluding rejections based on combination of teachings from references from non-analogous arts is the realization that an inventor could not possibly be aware of every teaching in every art. Thus, we attempt to more closely approximate the reality of the circumstances surrounding the making of an invention by only presuming knowledge by the inventor of prior art in the field of his endeavor and in analogous arts.

The determination that a reference is from a nonanalogous art is therefore two-fold. First, we decide if the reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved."

Thus, application of the first step in determining if the Wunderlich patent is analogous art fails, as it cannot be reasonably said that it is within the applicant's field of endeavor. The Applicants field of endeavor is tableware, and in particular, containers for serving warm beverages. Wunderlich's field of endeavor is electrical appliances such as

washers and dryers.

Further, the second step also fails, as it cannot be reasonably said that Wunderlich is reasonably pertinent to the Applicants particular problem, which is finding a simple way of indicating the temperature of the beverage in a vessel used for its consumption.

CONCLUSION

The applicant believes he has made a compelling argument against allowing the examiner's latest rejection of his patent application to stand. The examiner's latest rejection has had as much merit as all her other rejections. Had she taken the time to review the two patents she cited more thoroughly, she might have saved both herself and the applicant from the added time and inconvenience of this latest office action.

The applicant would like to point out that it has been five years since his application was filed, and that he has continued to answer all objections that the examiner has made. While this drawn out process may be of little significance to her, it has caused the applicant hardship both economically and personally. He has invested much time and money into this invention, and now awaits the opportunity to reap the reward from his efforts that he deserves.

It may be worth pointing out to the examiner why we have a patent system and why it, along with other aspects of our capitalist system have given America the highest standard of living in the world, while the Communist nations of Eastern Europe that did not believe in private property, intellectual or other, kept the vast majority of their population, the bureaucrats excepted, economically deprived for half a century.

The patent system was created by our founding fathers to encourage the development of the technological arts, and to reward individuals for their creativity, as well as their sacrifices in both time and money. This was viewed as a basic right and was considered a good in and of itself. It was also recognized, however, that the respecting of intellectual property had the added benefit of encouraging innovation with the promise of financial reward that it offered. This, they recognized, benefited all, not just inventors. Our 16th president Abraham Lincoln, himself a patent holder, in praising the patent system said that "The patent System added the fuel of interest to the fire of genius". The applicant believes in the American system of free enterprise and respect for property rights that has made this country the greatest and most prosperous on earth. Ownership of property is a right, not a privilege to be granted by governments. Unlike the former communist regimes of Eastern Europe, the government of the United States was established to protect the property rights of its citizens, not to grant them at its whim.

So to conclude, the applicant would like to urge the examiner to finally allow this application to pass to issuance. To continue to search for new justifications to block issuance of this application as a way to justify her previous delays is prideful, and the applicant urges her to do the right thing by allowing issuance of this application so that she and the applicant can move on to more worthy pursuits. Failing to do so will leave the applicant no other choice than to file a notice of appeal, or petition for her removal from this case.

Respectfully submitted:

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